



Milk formula from **A** to **Y**



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Agenda

- Learning objectives
- Baby and mom division
- Breast feeding & Pumping
- Milk formula



Learning objectives

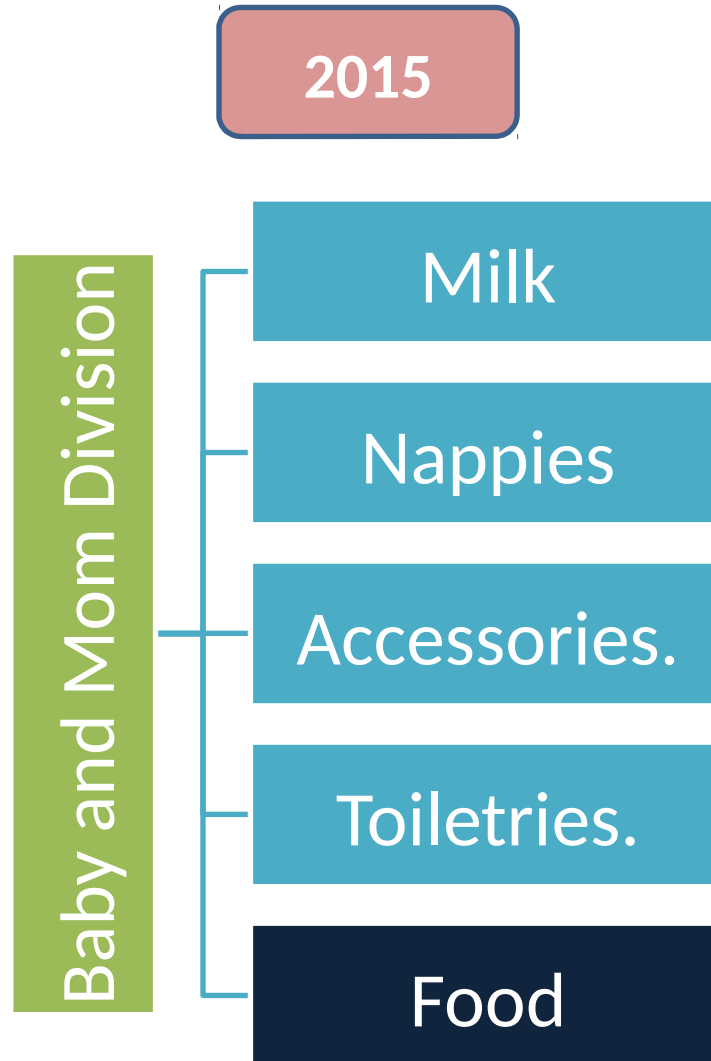


- Upon completion of the milk formula training program, the pharmacist will be able to
 - ✓ Recognize the baby and mom division opportunities
 - ✓ Describe the advantages of breastfeeding for mother and child
 - ✓ identify the components of Infant Formula
 - ✓ Explain the special types of formula available in community pharmacy.
 - ✓ Make list of baby accessories of breastfeeding infant and infant milk formula.

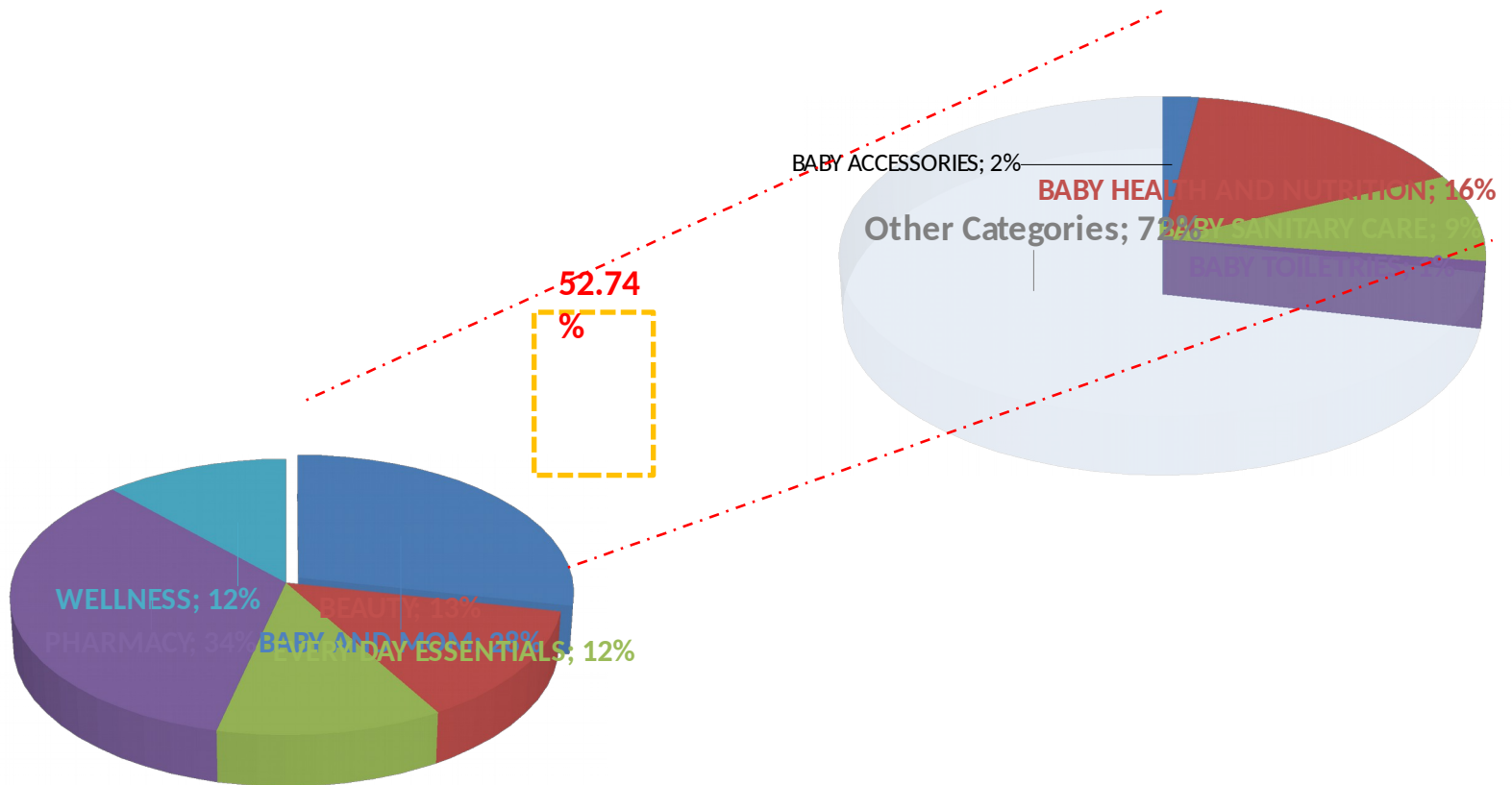
Division Definition

- ❑ Baby and Mom is a division which focuses on satisfying baby and mother needs through providing wide variety of products, services and professional advice. It includes nutrition, personal care and accessories for both baby and mom **excludes medicine.**

Division Structure



Division Contribution



Breastfeeding



Initiation of Breastfeeding / Establishing Breastfeeding

- Breastfeeding exclusively recommended up to 6 M, and continued along with appropriate complementary foods up to two years of age or beyond.
- Many medical authorities, including the AAP and the ACOGs, strongly recommend breastfeeding



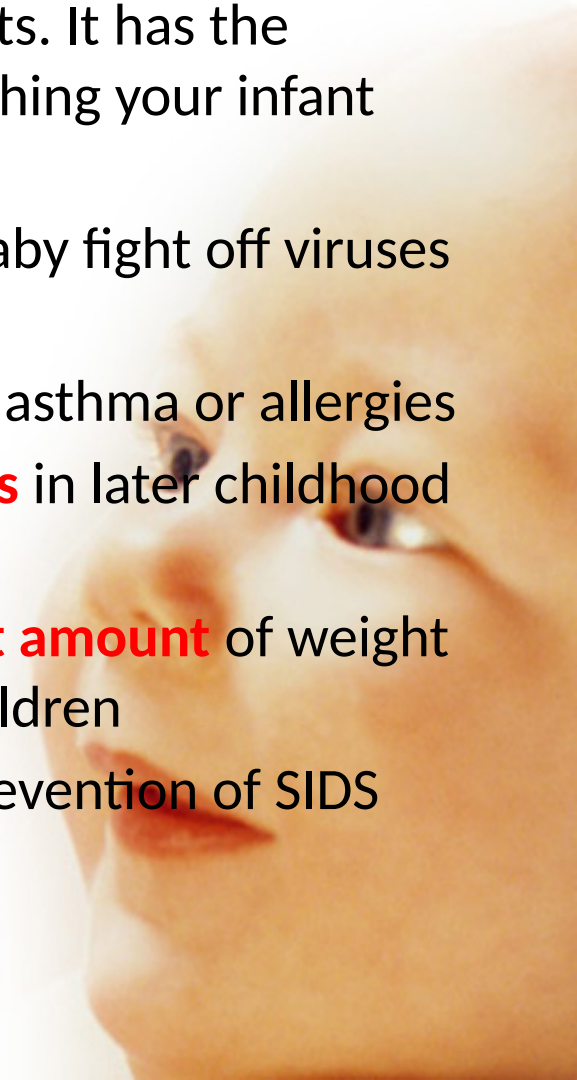
New born should be nursed 8-12 times every 24 Hrs.
Crying is a late indicator of hunger

Guiding principles for complementary feeding of the breastfed child / WHO

1. Practise exclusive breastfeeding from birth to 6 months of age, and introduce complementary foods at 6 months of age (180 days) while continuing to breastfeed.
2. Continue frequent, on-demand breastfeeding until 2 years of age or beyond.
3. Practise responsive feeding, applying the principles of psychosocial care.
4. Practise good hygiene and proper food handling.

Breastfeeding(Baby)

- Breast milk provides **the ideal nutrition** for infants. It has the perfect mix of vitamins, protein, and fat -- everything your infant needs to grow
- Breast milk contains **antibodies** that help your baby fight off viruses and bacteria
- Breastfeeding **reduces your** baby's risk of having asthma or allergies
- Breastfeeding has been linked to higher **IQ scores** in later childhood in some studies
- Breastfed infants are more likely to gain **the right amount** of weight as they grow rather than become overweight children
- The AAP says breastfeeding plays a role in the prevention of SIDS (**sudden infant death syndrome**)



Benefits of Breastfeeding / Mother

BREAST CANCER

The relative risk of breast cancer is reduced by **4.3% for every 12 months** of breast feeding **in addition to a reduction of 7% for each birth.**

Having been breast fed is associated with a lower risk of pre- and postmenopausal breast cancer.

OVARIAN CANCER

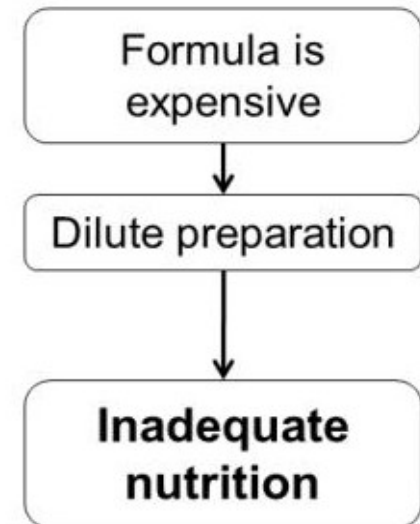
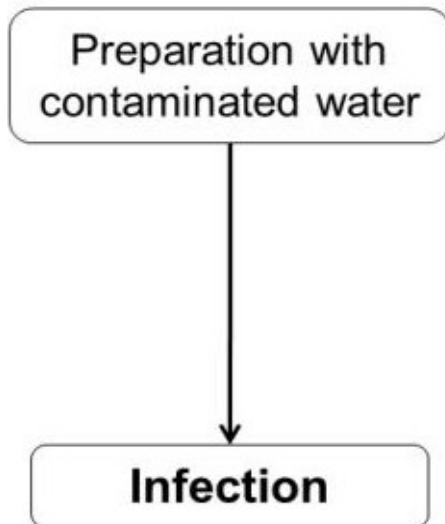
Any breast feeding was associated with a reduced risk of ovarian cancer compared with never breast feeding

TYPE 2 DIABETES

For women without gestational diabetes **each additional year of breast feeding was associated with a reduced risk of developing type 2 diabetes**

LESS POST-PARTUM DEPRESSION

Benefits of Breastfeeding

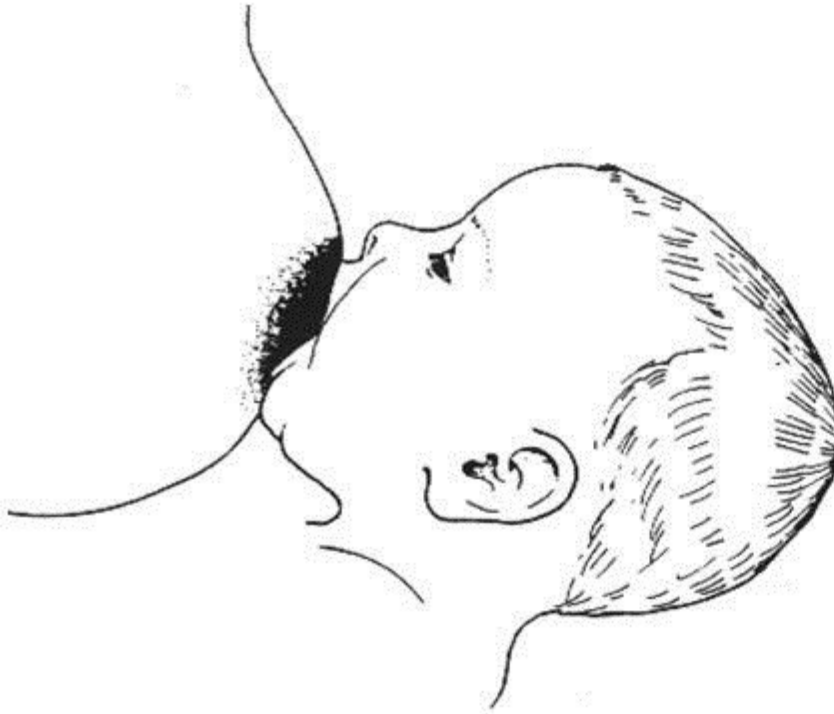


Common Problems of Artificial Feeding

Pharmacists and Recommended BF Practices



Positioning and Attachment / Establishing Breastfeeding



Four signs of Good Attachment

1. More of the areola is visible above the baby's top lip than below the lower lip
2. The baby's mouth is wide open
3. The baby's lower lip is curled outwards
4. The baby's chin is touching or almost touching the breast.



Exercise 1.2

Please Open Page 1 in the worksheet



Well
Attached

Poorly
Attached

Picture 1



Well
Attached

Poorly
Attached

Picture 2



Well
Attached

Poorly
Attached

Picture 3



Well
Attached

Poorly
Attached

Picture 4

BOTTLE AND PACIFIER USE / Establishing Breastfeeding

WHO

Steps 9 in the **WHO/UNICEF Ten Steps to Successful Breastfeeding** is to give no artificial nipples or pacifiers to breastfeeding infants'

AAP

The AAP does not support a categorical ban on pacifiers because of their role in SIDS risk reduction and their analgesic benefit during painful procedures when breastfeeding cannot provide the analgesia. Pacifier use in the hospital in the neonatal period should be limited to specific medical indications such as pain reduction and calming in a drug-exposed infant, for example.



Mothers of healthy term breastfed infants should be instructed to delay pacifier use until breastfeeding is well-established, usually about 3 to 4 wk after birth.

Methods Of Expressing Breast Milk / Expressing Breast Milk



Hand Expression



Hand Pump

Horn Pumps

Handle Pumps



Electric Pump

Mid Range Pumps

High Range Pumps

NURSING MOTHER BREAST CARE

BREAST PADS

Requirement for good breast pads:

- Soft , lined by cotton or hemp .
- cup shaped so better fit.
- Breathable; moving moisture away from body .
- have a sticky pad to stay put in the bra
- High absorbency



Warm Up

AC	IT
Cesar	Comfort
Gental	HA
Soya	PDF
LF	AR
CT	AD
Ensure	Ensure Plus
Pedia sure	S26
Promil	Anilin
Gloserna	



Infant Formula

- Product intended for use by infants that simulates human milk or is suitable as a complete or partial substitute for human milk



8000 BCE



3000 BCE



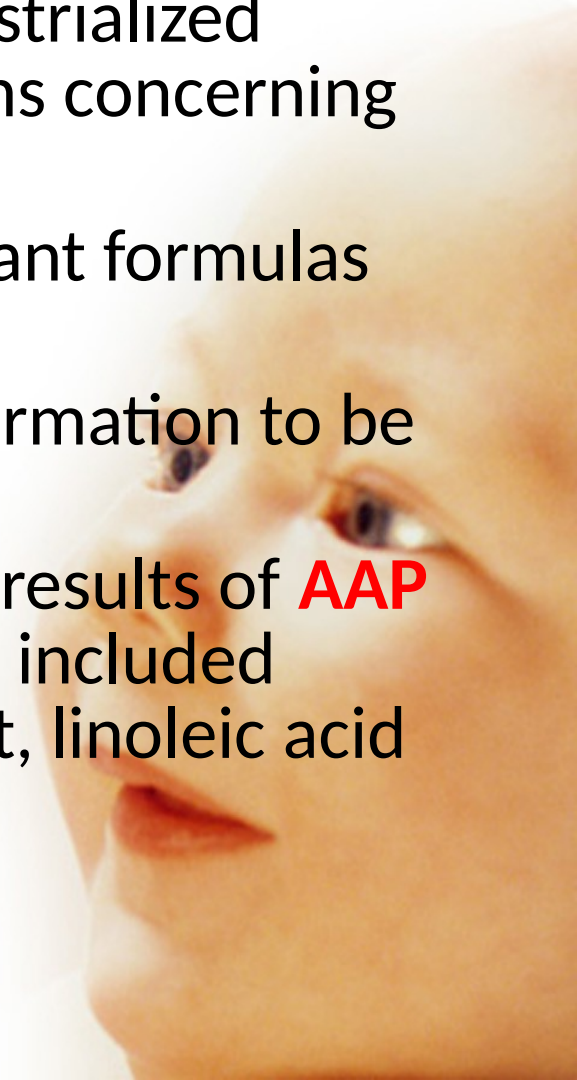
2000 AD

Photos from the Canadian Heritage Information Network

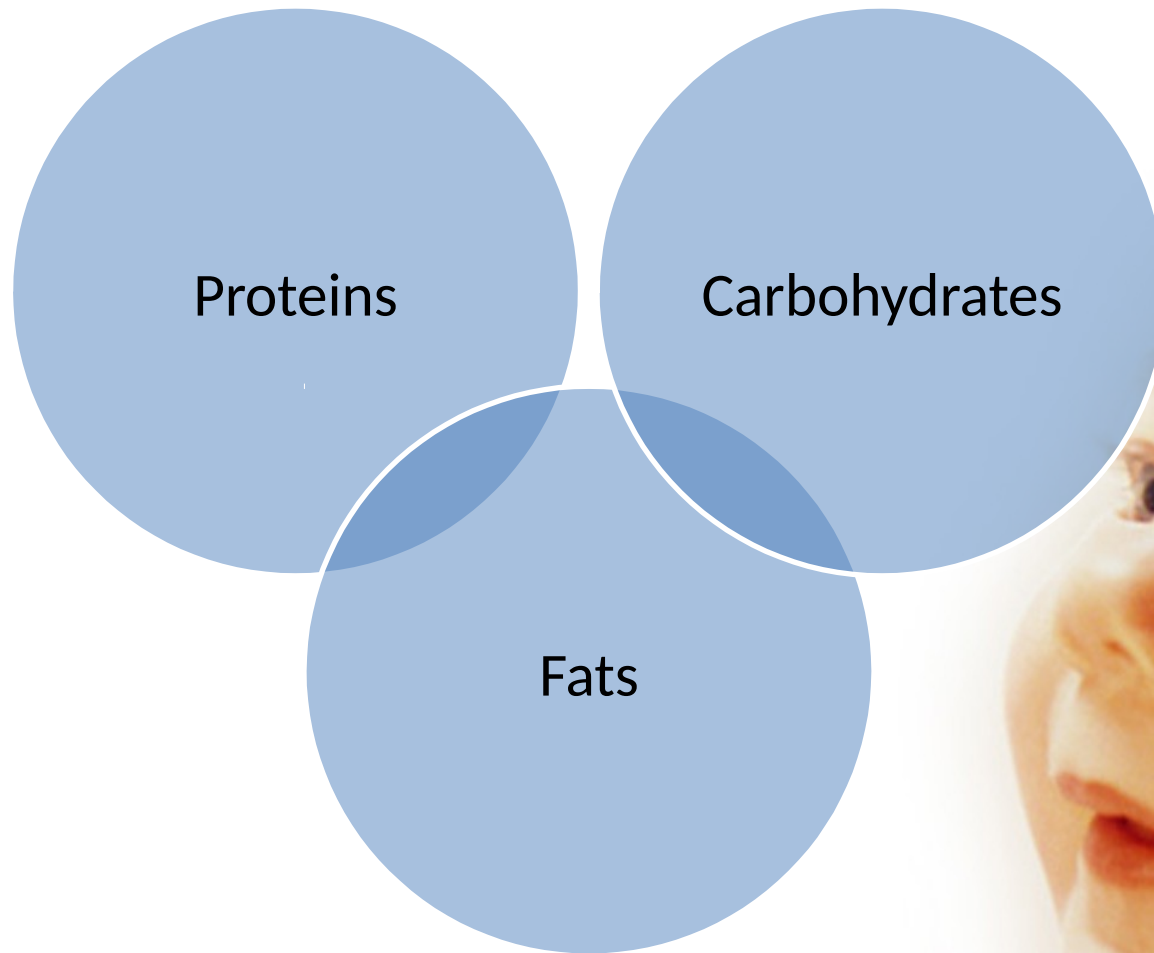


Regulation of Infant Formulas

- The US was one of the **last** major industrialized nation to implement federal regulations concerning safety of infant formulas
- The first **FDA** reference to safety of infant formulas was in 1938
- 1941 first requirement for specific information to be included on an infant formula label
- No new revisions until 1971 when the results of **AAP** recommendations and public hearings included minimum requirements for protein, fat, linoleic acid and 17 vitamins and minerals.



The Main Components of Milk Formula



Protein

There are two types of protien

Whey protien

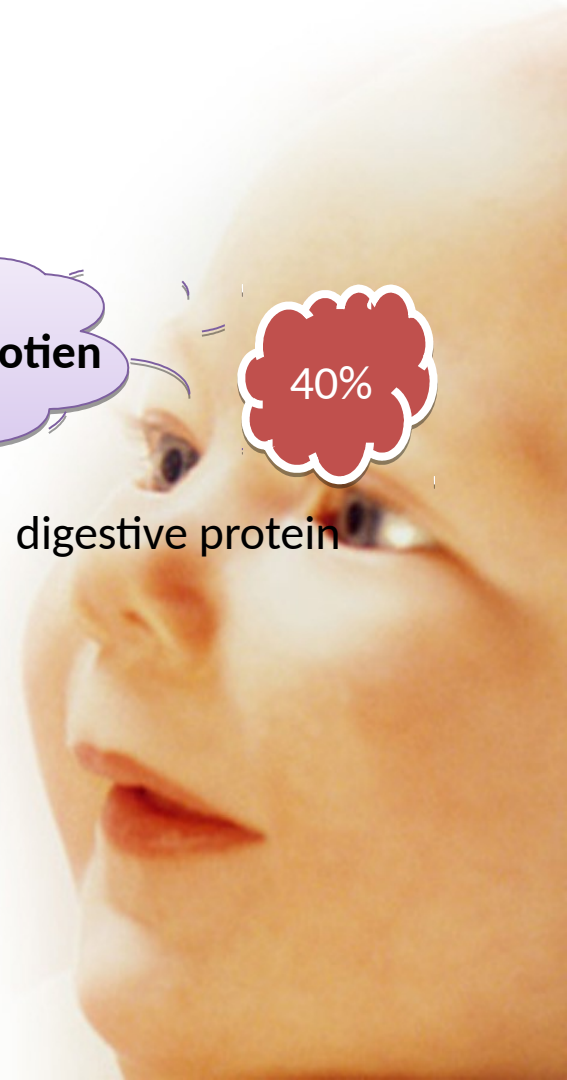
60%

➤ Rapid digestive protein



Casien protien

40%

➤ Slow digestive protein



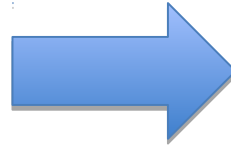
Comparison between human milk, cow milk & milk powder

	Human milk	Milk powder	Cow milk
whey	60	60	20
casein	40	40	80
Tendency to allergy	low	low	high
Taurine Amino acid Important for Brain & eye			
Calcium to phosphorus	2 : 1	2:1	1:1
digestion	rapid	rapid	slow

Fats

Essential Fatty Acids

- linoleic acid
- alpha linolenic acid



Non-Essential Fatty Acids

Contains **DHA** and **ARA**,

Inelegance (IQ)

LCPUF



Carbohydrates

The MAIN COMPONENT IS LACTOSE

All products contain lactose except **LF products & soya product**

Lactose

Source of energy & increase absorption of minerals e.g. iron, zinc & calcium



Baby Milk

**Caw milk increase
mortality for baby
less than 1 year**



Types of Milk Formula



For Normal
Infants

For special
cases

Milk formula For Normal Infants

General Rules :-

- ☐ No. 1 means from 1st day after delivery up to six months
(except Nido 1 , Anchor and Golden goat milk)
- ☐ No. 2 means from 6 months up to one year
- ☐ No. 3 means that over 1 year up to 3 years
- ☐ No. 4 (or kids) over 3 years



Baby Milk Formula



(1st D – 6M)



(6M – 1Y)



(1Y - 3Y)



(3Y - 6Y)



Special Cases

1-premature Infants

2-Allergy From Cow Milk

3-Diarrhea (Lactose Intolerance)

4-Regurgitations

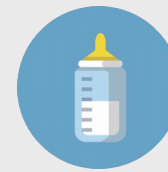
5-colic

6-Constipation

7-Soya Milk



Baby Milk Formula



1- Preterm formula

Premature baby

- Baby born of **less than 37 weeks** (gestational age).
- Baby born of **less than 2.5 KG** (low body weight)

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IDEA

- High content of protein ,minerals & vitamins.



Baby Milk Formula



2- HA "hypo-allergenic". formula

Allergic infant

- Babies who at high risk of allergies (eg family members have asthma, eczema, hay fever or food allergies) ... more exposed to cow's milk allergy.

Cow's milk Allergy Symptoms :

- Eczema, vomiting, diarrhea or asthma(Wheezing)

IDEA

- The protein has been broken down into smaller parts.

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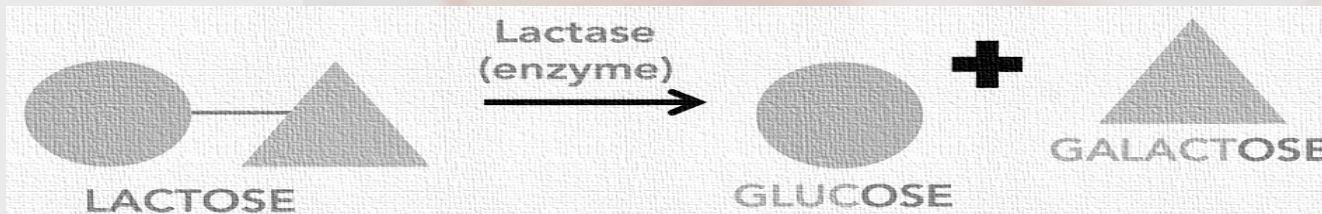
Baby Milk Formula



3- Lactose Free formula (LF, FL)

Lactose Intolerance Baby

- Babies with lactase enzyme deficiency, as a result bacteria in colon interact with lactose producing acids & gases ..leading to diarrhea, gas and bloating after milk fed... but not dangerous.

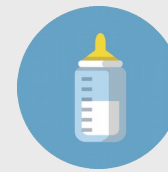


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Diagnosis

- Stool acidity test : checking for lactic acid in stools due to undigested lactose

Baby Milk Formula



3- Lactose Free formula (LF, FL)

IDEA

- Substitute Lactose by corn starch or sucrose as CHO source



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NOTE :

- 1- Baby with diarrhea can use lactose free formula as lactose increase diarrhea.
- 2- lactose intolerance may be just temporarily or permanent.

Baby Milk Formula



4- Antidiarrheal Formula (AD)

Diarrhea

- considered as a substitute for usual infant milk, in case of diarrhea, and for transitory period.

IDEA

- Beside feeding, Rehydrates infant during and after diarrhea.
- Removing lactose (reduce fermentation.)
- Simple sugars that are rapidly absorbed.
- Fibers (banana or apple puree) to normalize stool consistency.

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NOTE :

LF formula can be used in this case

Baby Milk Formula



5- Anti Colic Formula (AC , COMFORT, GENTLE)

Colic & Gases Symptoms

- loud crying often 15 min after feeding
- legs pulled up to chest

IDEA

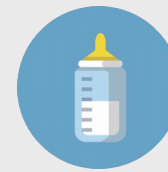
- Low lactose (less colic)
- 100% whey protein (rapid digestion)
- Prebiotic (help in digestion)

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NOTE : Can be used with the babies susceptible to constipation ...

Baby Milk Formula



6- Anti Reflux Formula (AR)

Regurgitation (spitting up)

Milk flow from baby mouth after feeding due to :

- **Common** : overfeeding, air swallowed, or coughing and a normal weight gain .
- **Pathologic** : reflux GERD ... regurgitation and vomiting associated with poor weight gain, respiratory symptoms .. due to immature sphincter.

IDEA

- contain starch or natural gum which thicken the formula and improving milk reflux.

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Baby Milk Formula



6- Anti Regurgitation or Anti Reflux Formula (AR)

Customer education :

- Burping baby frequently
- Feeding smaller amounts, but more often
- Feeding baby before being ravenous نههم وجوع to avoid swallowing air.
- Keeping feeding time calm and quiet
- Limiting activity after eating
- Keeping baby upright for 30 minutes after eating



Baby Milk Formula



7- Anti Constipation (AC , IT , CT)

IDEA

- Increase lactose & Magnesium
- Increase whey protein

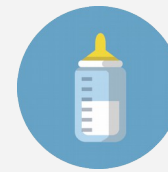


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NOTE :

- AC mean anti constipation except Novalac AC is an anti colic formula ...
- Gentle & Comfort formula can be used for babies suffering constipation for long time to manage not treat this problem.

Baby Milk Formula



8- Soy Protein Isolate Milk

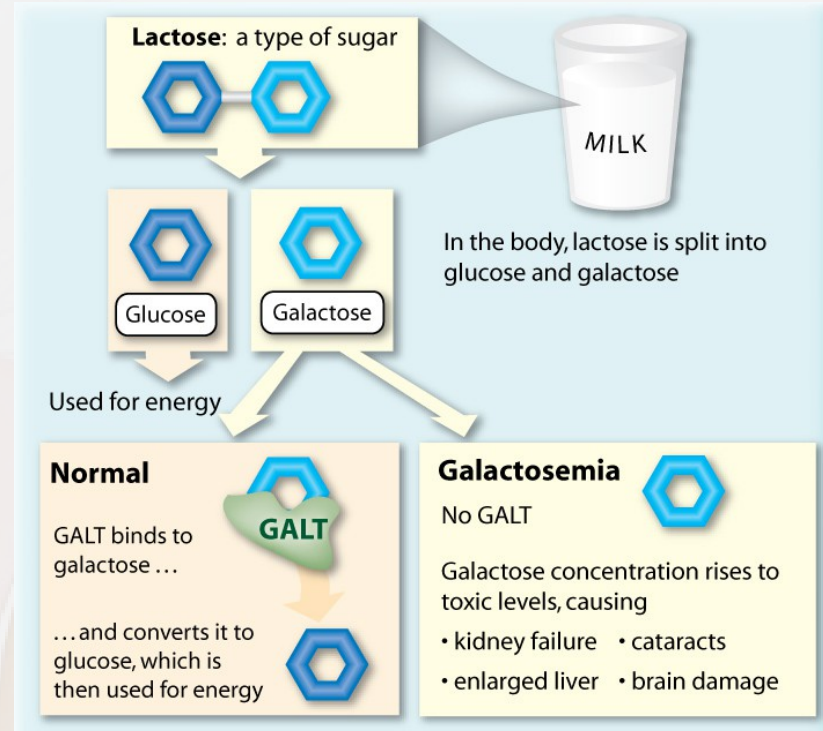
Galactosemia :

The symptoms due to a blood infection with E. coli :

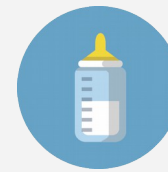
- Convulsions & Irritability
- Poor feeding (baby refuses to eat milk formula)
- Vomiting
- Poor weight gain
- Yellow skin and whites of the eyes (jaundice)

Exams & Tests :

- Blood culture for E. coli
- Enzyme activity in the blood
- Ketones in the urine
- Hypoglycemia while the infant is being fed



Baby Milk Formula



8- Soy Protein Isolate Milk

IDEA

- soya protein + glucose syp.



SPECIAL
FORMULA

NOTE :

- For infants suffering from galactosaemia, lactose intolerance or cow's milk allergy

Infant milks in the UK
A practical guide for health professionals
June 2013

<http://galactosemia.org/PDFs/UnderstandingGalactosemiaDietGuide3.pdf>





SPECIAL
FORMUL
A



Balanced nutrition formula

Some formula are suitable for diabetic patients
As they contain low carbohydrate content



Some formulas are suitable for children over one year like pediasure (1- 10 y.)



- ☐ They may be powders or liquids.
- ☐ For weight gain
- ☐ recovering from illness or surgery,
- ☐ Used to people doing Diets at nutritional risk

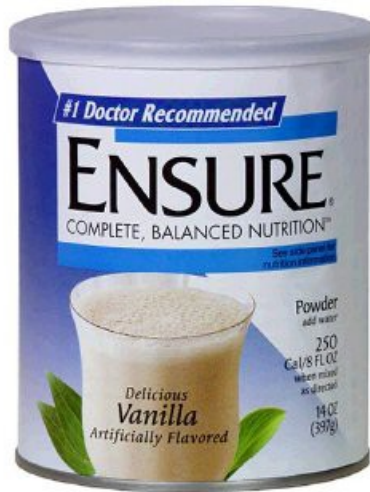


Some formulas are suitable for pregnant and lactating women

As they contain multi vitamins and high calcium content.



Balanced nutrition formula



How much milk is needed

- bottle-fed babies should be initially offered about **20ml formula milk/kg on the first day**, divided into **eight feeds**,
- **150ml/kg by 7-14 day**



Cereals



Benefits of cereals

Benefits of cereals

- high source of energy
- contain iron & vitamin
- preparation to introduce **Solid food** to baby

When the baby reaches **6 months** we begin to introduce the solid food for him

1st stage begin with easily digested food like **wheat or rice**

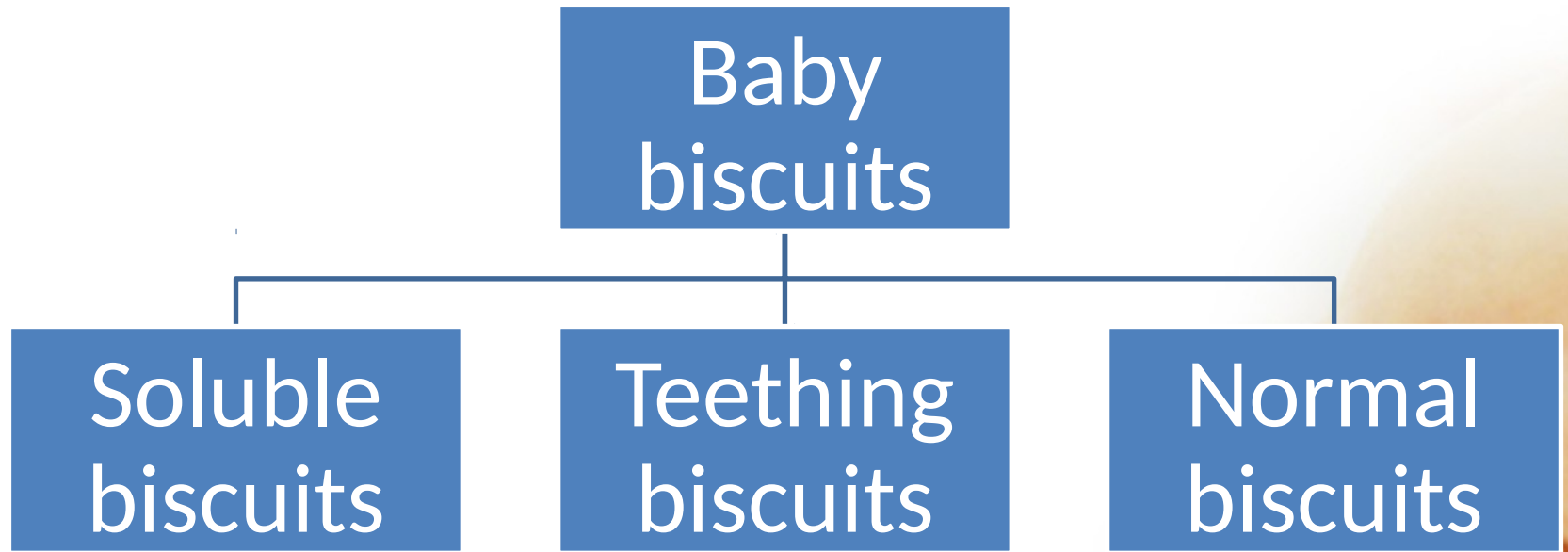
In the second stage we can introduce cereals that contain **honey, dried dates, fruits , vegetables , ... etc.**

In the 3rd stage over 8 months we can introduce cereals that contain small parts of fruits & dates .

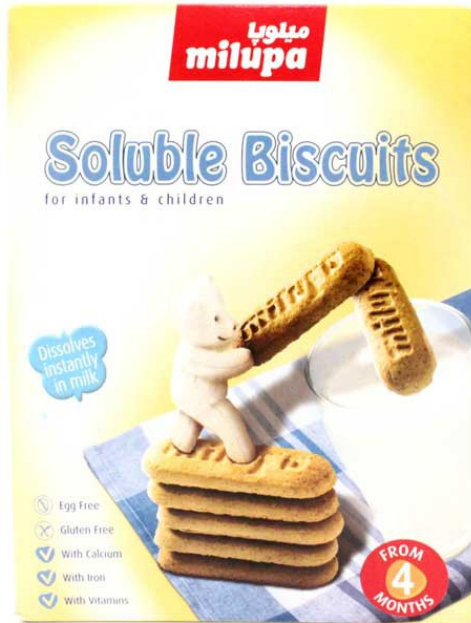
Be carful when introducing solid food for a baby with galactosemia.



Baby biscuits



Baby Biscuits



Soluble Biscuits

- For infants from **4** months of age
- Dissolve in milk
- Introduced to baby through cereal feeder
- Contain vitamin & minerals



Teething

Hard rusks & can help the teeth to penetrate

Normal Biscuits

They are ideal for babies learning to **hold & eat food**



Herbal Tea

Baby herbal drinks (tea) are used mainly as carminative and anti spasmodic .

They contain purified Chamomile , Fennel or mixture of herbs.



Chamomile

Sedative effect



Fennel

Carminative
& antispasmodic



Herbal

Carminative
& antispasmodic
cough sedative

Fennel
Thyme
Mint
anise



- **Baby accessories**

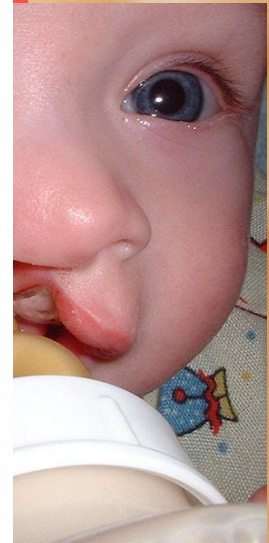


Baby accessories

Choose the size of the bottle and nipple which is suitable for the baby age. (S M L).

Special forms of bottles and nipples :

- 1- Peristaltic nipple
 - 2- Cleft palate
 - 3- Cereals
 - 4- Disposable
 - 5- Non invasive
- Special nipple
 - Breast bottle
 - Special bottle
 - Nasal aspirator
 - Milk powder



Pigeon



**tommee
tippee®**

pigeon



Baby Feeders & Cups



For cracked nipple

Baby Diapers



Pampers



Baby cleansing wipes

are used to clean the baby.



Cotton buds



chamomile

Adult diapers

(diapers – culottes)

Tena – Lotus – Elegence – Fine

pants



Under pads

60x90 cm

80x180



Ego san



Baby Safety





Toys



Thank You

